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(54) AUTOMATIC CONTENT EXPANSION INDICATORS

(75) Inventors: **Joaquin C. Blas, Jr.**, Pacifica, CA (US); **John Skidgel**, Berkeley, CA (US)

(73) Assignee: **Adobe Systems Incorporated**, San Jose, CA (US)

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(51) **Int. Cl.**

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G06F 17/22	(2006.01)
G06F 3/0484	(2013.01)
G06F 17/21	(2006.01)

(52) **U.S. Cl.**
CPC ***G06F 17/2247*** (2013.01); ***G06F 3/0484*** (2013.01); ***G06F 3/04842*** (2013.01); ***G06F 17/212*** (2013.01)

(58) **Field of Classification Search**
None
See application file for complete search history.

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Office Action of Jan. 7, 2009 in U.S. Appl. No. 11/210,270.
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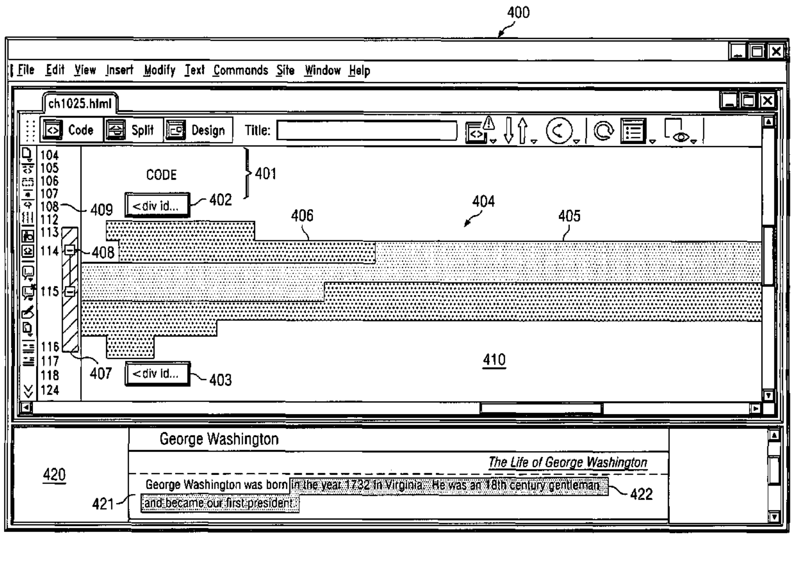
Primary Examiner — James D Rutten
(74) *Attorney, Agent, or Firm* — Kilpatrick Townsend & Stockton LLP

(57) ABSTRACT

A method, system, and computer program product for providing automatic expanding and collapsing of a portion of visual content on a screen including expanding the portion of visual content, and providing a visual cue alerting a user that the portion is automatically expanded from a collapsed state.

19 Claims, 6 Drawing Sheets



George Washington was born in the year 1732 in Virginia. He was an 18th century gentleman and became our first president.

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FIG. 1

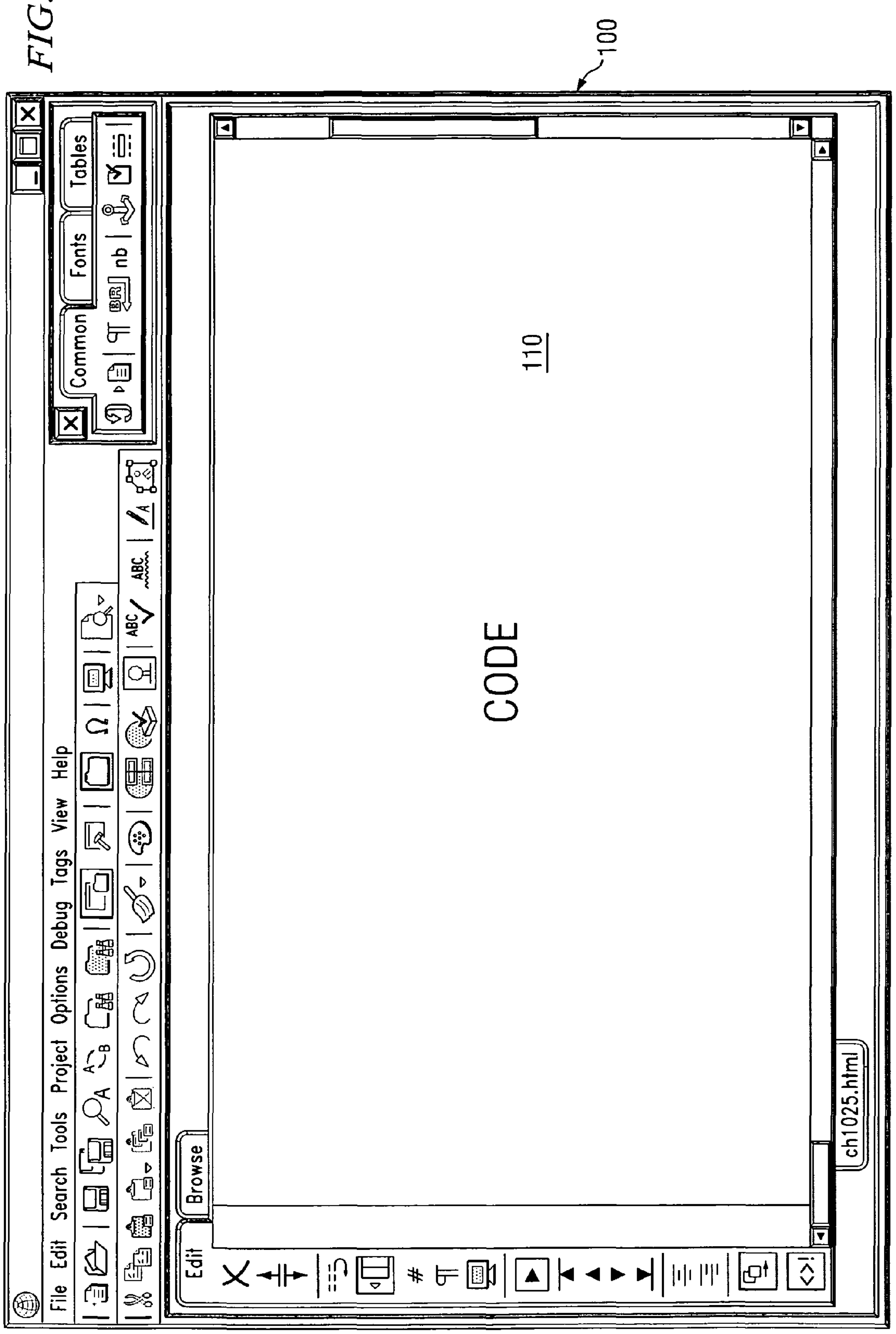
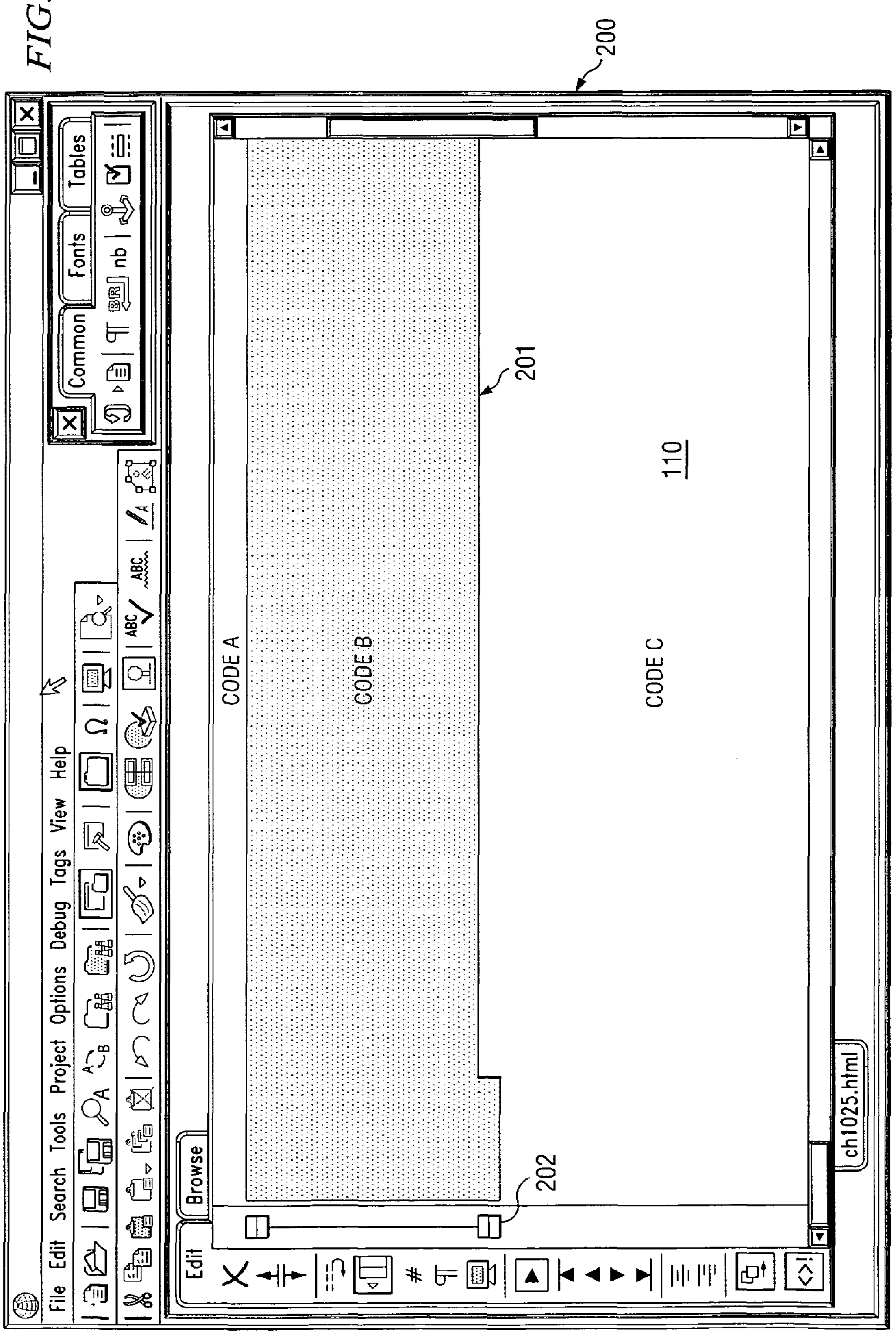

100
File Edit Search Tools Project Options Debug Tags View Help
Common
Fonts
Tables
nb
CODE
110
Browse
Edit
ch1025.html

FIG. 2


200
File Edit Search Tools Project Options Debug Tags View Help
Common
Fonts
Tables
nb
ABC
Edit
Browse
CODE A
CODE B
CODE C
201
202
110
ch1025.html

U.S. Patent Sep. 8, 2015 Sheet 3 of 6 US 9,128,917 B2

FIG. 3

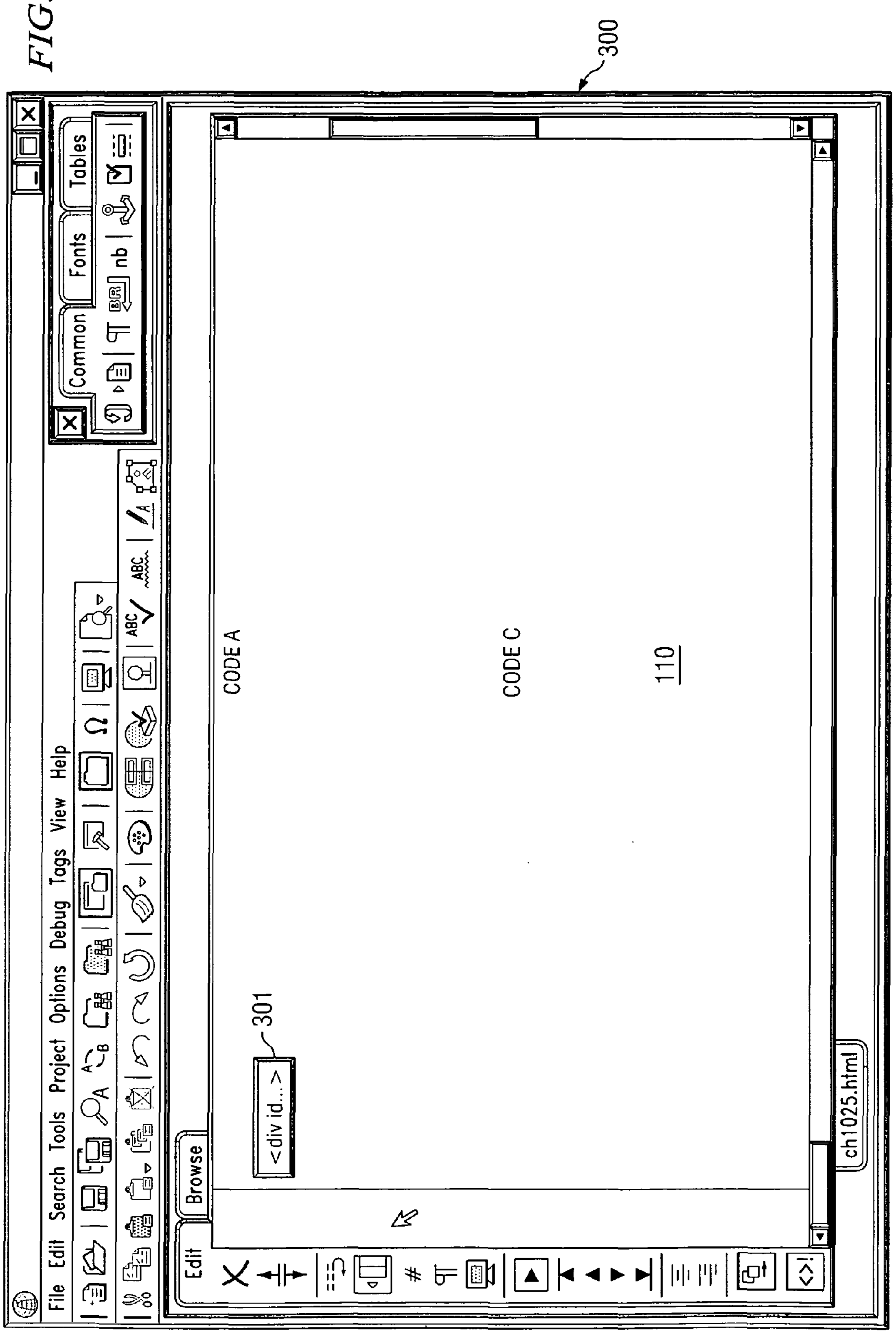
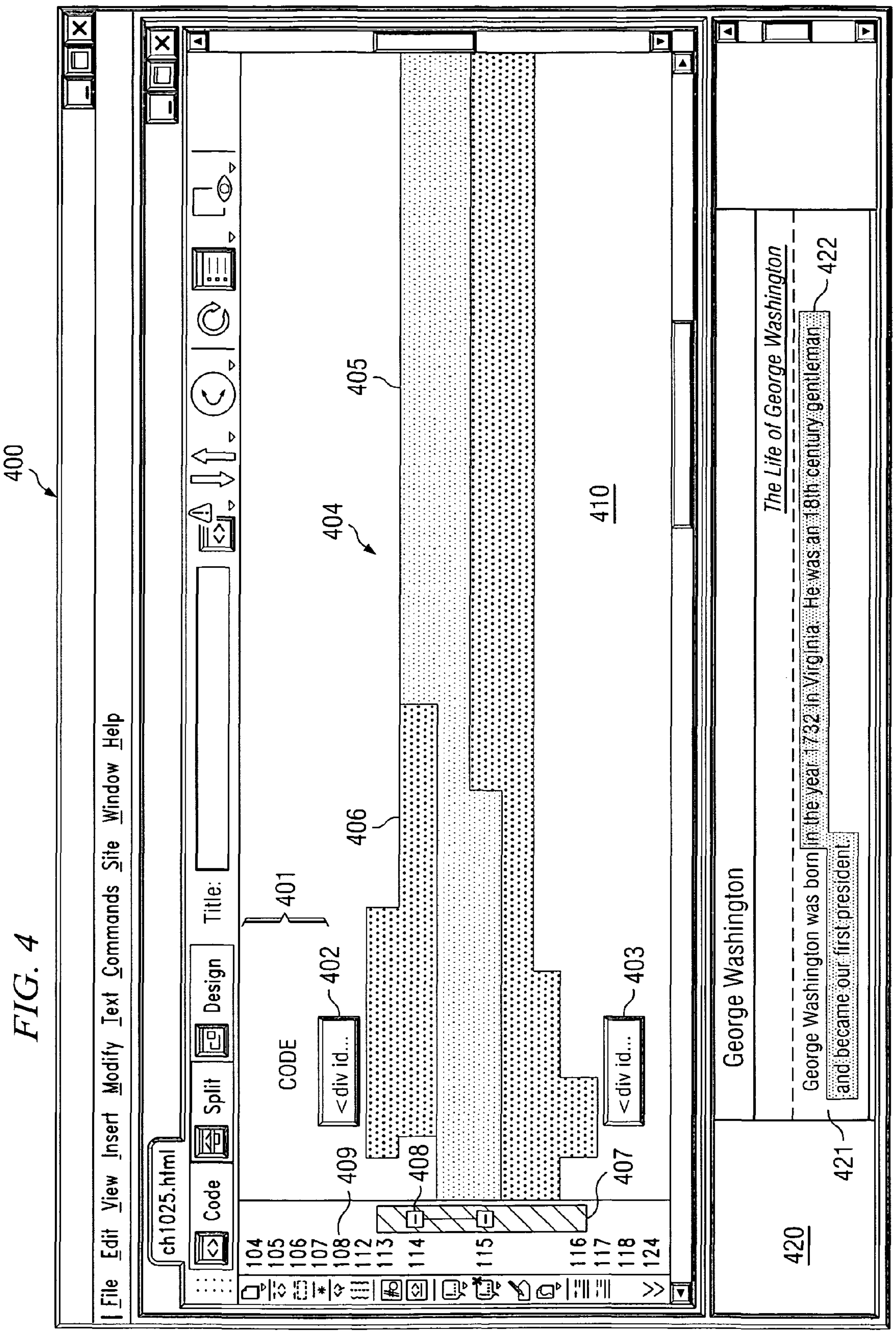


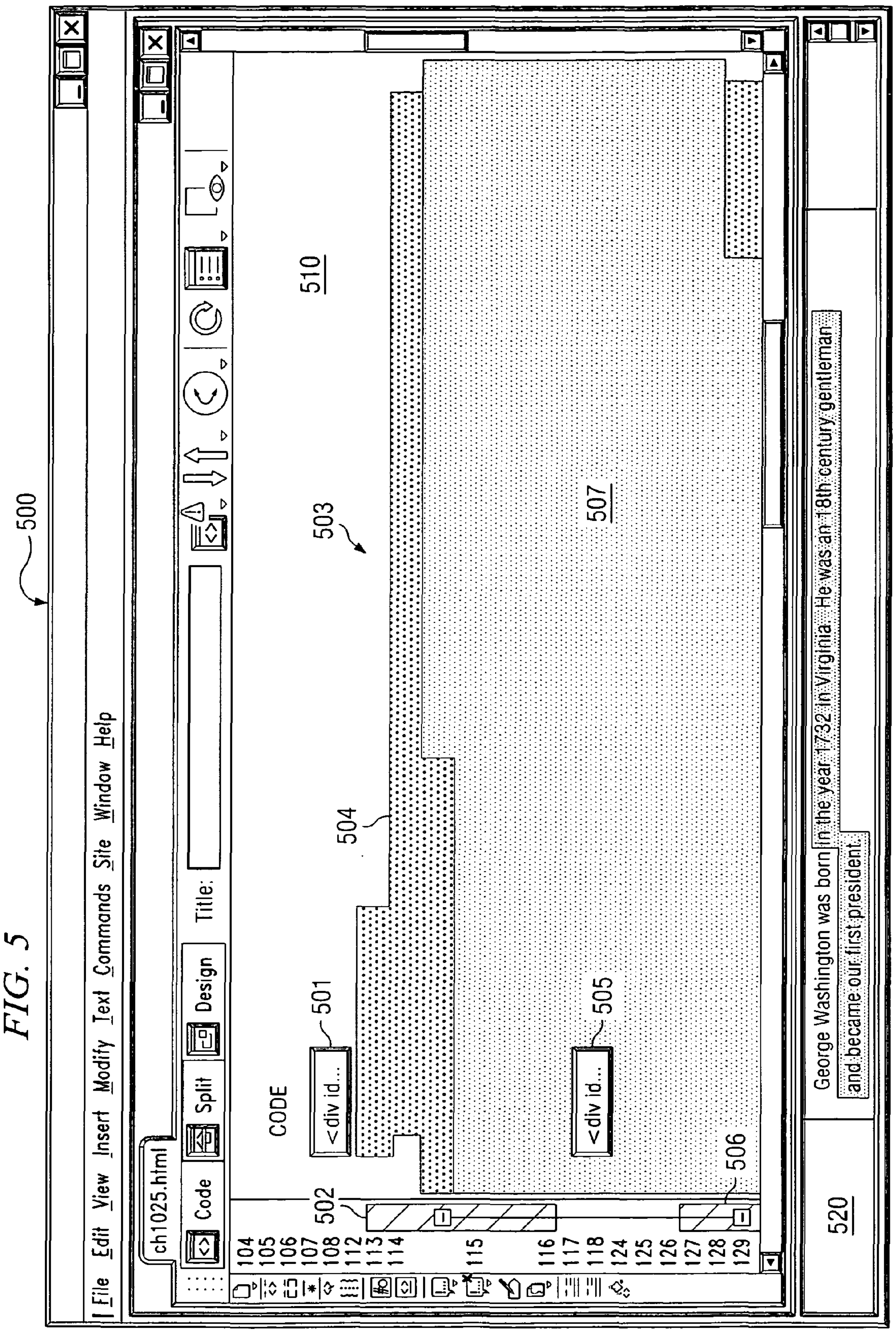
FIG. 4



George Washington was born in the year 1732 in Virginia. He was an 18th century gentleman and became our first president.

U.S. Patent Sep. 8, 2015 Sheet 5 of 6 US 9,128,917 B2

FIG. 5



George Washington was born in the year 1732 in Virginia. He was an 18th century gentleman and became our first president.

FIG. 6

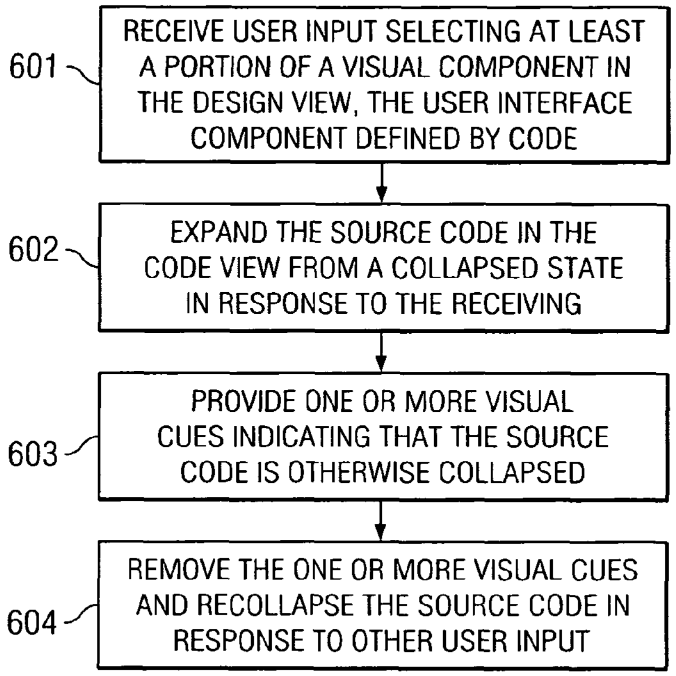
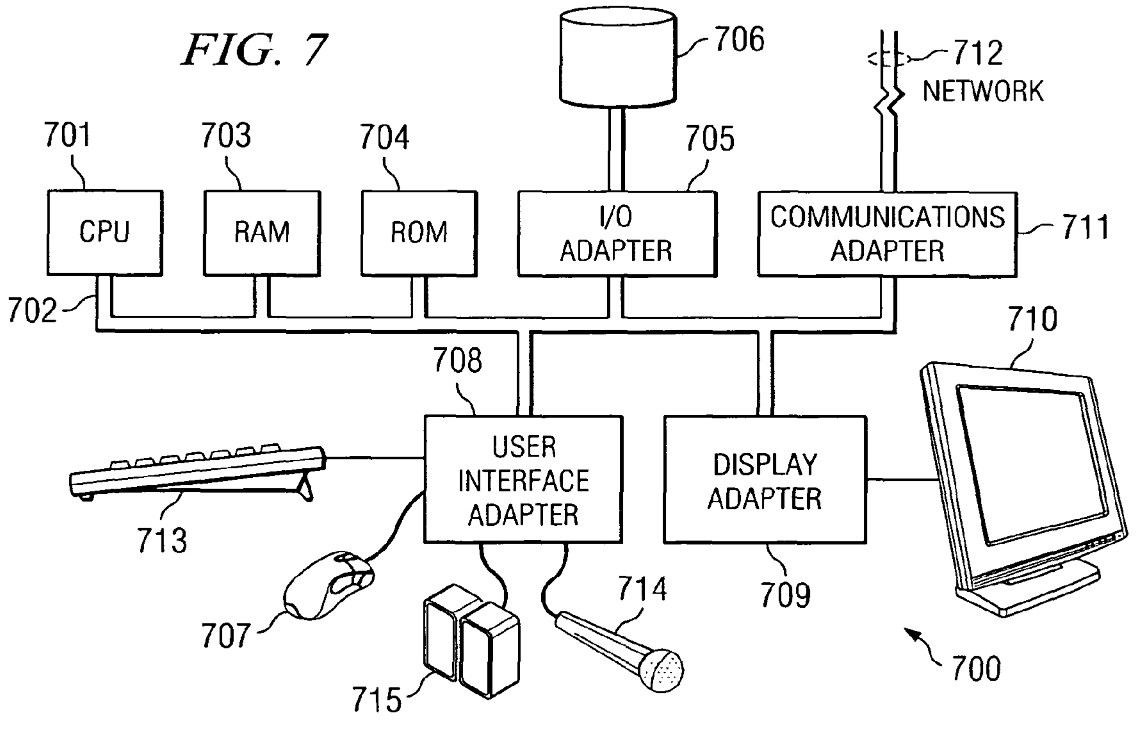

601
RECEIVE USER INPUT SELECTING AT LEAST A PORTION OF A VISUAL COMPONENT IN THE DESIGN VIEW, THE USER INTERFACE COMPONENT DEFINED BY CODE
602
EXPAND THE SOURCE CODE IN THE CODE VIEW FROM A COLLAPSED STATE IN RESPONSE TO THE RECEIVING
603
PROVIDE ONE OR MORE VISUAL CUES INDICATING THAT THE SOURCE CODE IS OTHERWISE COLLAPSED
604
REMOVE THE ONE OR MORE VISUAL CUES AND RECOLLAPSE THE SOURCE CODE IN RESPONSE TO OTHER USER INPUT

FIG. 7


706
712
NETWORK
701
703
704
705
CPU
RAM
ROM
I/O ADAPTER
COMMUNICATIONS ADAPTER
711
702
710
708
USER INTERFACE ADAPTER
DISPLAY ADAPTER
713
714
709
707
715
700

AUTOMATIC CONTENT EXPANSION INDICATORS

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is related to U.S. patent application Ser. No. 11/209,335, filed Aug. 23, 2005, entitled CONTENT COLLAPSE OUTSIDE OF SELECTION and to U.S. patent application Ser. No. 11/210,270, filed Aug. 23, 2005, entitled MESSAGE CUES ASSOCIATED WITH CONTENT COLLAPSE INDICATORS, the disclosures of which are hereby incorporated herein by reference.

TECHNICAL FIELD

This invention generally relates to collapsed/expanded content in rendered views, and specifically relates to visual cues describing collapsed/expanded content in Integrated Development Environments (IDEs).

BACKGROUND OF THE INVENTION

Integrated Development Environments (IDEs) are software tools that allow a developer (e.g., a web developer) to create web pages, websites, interactive applications, and the like for use by end users (e.g., visitors to websites). Various IDEs exist in the current marketplace, such as DREAMWEAVER™, available from MACROMEDIA INC. of San Francisco, Calif. and FRONTPAGE®, available from Microsoft Corporation. DREAMWEAVER™ is an IDE that allows web developers to design Hypertext Markup Language (HTML) web pages in both a code editor and a graphical-based design time environment. DREAMWEAVER™ also allows the developer to design in other languages, such as, for example, Extensible Markup Language (XML), Extensible HTML (XHTML), Active Server Page (ASP), COLDFUSION™ Markup Language (CFML™), and the like.

An IDE may allow a developer to create a document in an environment that includes both a text-based code view and a graphical-based design view. The code view renders the source code as text in a portion of the screen and allows the developer to see and manipulate the source code in the document file. For example, the developer may write and edit HTML or Cascading Style Sheets (CSS) code in the code view. The design view, on the other hand, is a What You See Is What You Get (WYSIWYG) view of the document that allows the user to visually manipulate the interpreted and graphically laid-out version of the document, such as, for example, by dragging, dropping, cutting, and pasting visual components. As the developer works, changes to the document are reflected in both the code view and the design view.

Further, an IDE may support a code collapse feature. Code collapse, or code folding, in this example, is the ability to visually replace portions of the text in a document with an image or button, in effect hiding it, so that it does not take up much screen space. Users typically employ such a feature to hide portions of the code that they are not interested in or to bring two or more portions of the code closer together so that scrolling is not necessary to view them at the same time.

FIG. **1** is an illustration of example screen **100** from an IDE, including example code view **110**. Code views, such as code view **110**, are renderings of the source code as text for inspection, creation, and manipulation by the user. Example code view **110** is conceptual in that actual code is not shown thereon, but is understood to be represented by the word, "code." FIG. **2** is an illustration of example screen **200** from an IDE, including example code view **110**. In screen **200**, the user has selected code B **201**. A user usually marks a region of source code (e.g., code **201**) in code view **110** that he or she wants to collapse or hide. The marking may be performed by using a mouse or other pointing device to select code. The developer then indicates to the program that he or she desires to collapse selected code **201**, for example, by clicking on widget **202** in the gutter area of code view **110**. Internally, the program notates the region by dropping markers that capture the range that was selected—a marker at the beginning of the selection and a marker at the end of the selection. FIG. **3** is an illustration of example screen **300** from an IDE, including example code view **110**. As shown in screen **300**, when the IDE re-renders code view **110**, it renders code collapse button **301** in the place of selected code **201**.

Some IDEs also support an automatic code expand feature. In auto-expand, whenever a piece of collapsed code is selected, such as by the developer performing a FIND/REPLACE or selecting a corresponding visual object in the design view, the program automatically expands the collapsed code. When that piece of code is no longer selected, the program automatically recollapses the code.

When working in an IDE with code collapse and auto-expand, a developer may not realize that currently selected code is otherwise collapsed, and when the developer selects other code, it causes the auto-expanded code to recollapse unexpectedly. As a result, the developer may be distracted or lose his or her place in the code view. No IDEs that provide a code collapse feature with auto-expand provide a visual indication to the developer that certain code in the code view is auto-expanded from a collapsed state.

BRIEF SUMMARY OF THE INVENTION

The present invention, in one example, is directed to a system, method, and computer program that provide visual cues to the user indicating that a particular section of code has been auto-expanded, and is, therefore, otherwise collapsed. For example, the visual cues include vertical hash marks in the code view that show the vertical extent of the auto-expanded section. Other examples of visual cues include unique color highlighting, underlining, and the like, which may be applied to the particular auto-expanded code in the code view. An advantage of some embodiments is that the user is informed as he or she works with a section of code that that section is otherwise collapsed.

Further, it should also be noted that various embodiments of the invention are not limited to collapsing and expanding code in IDEs. Various embodiments may be applied to text editors, word processors, and the like, to indicate that text content has been auto-expanded. Still further, programs that collapse and expand other content (e.g., visual elements) may benefit from the indicators described herein.

The foregoing has outlined rather broadly the features and technical advantages of the present invention in order that the detailed description of the invention that follows may be better understood. Additional features and advantages of the invention will be described hereinafter which form the subject of the claims of the invention. It should be appreciated by those skilled in the art that the conception and specific embodiment disclosed may be readily utilized as a basis for modifying or designing other structures for carrying out the same purposes of the present invention. It should also be realized by those skilled in the art that such equivalent constructions do not depart from the spirit and scope of the invention as set forth in the appended claims. The novel features which are believed to be characteristic of the invention, both as to its organization and method of operation, together with further objects and advantages will be better understood from the following description when considered in connection with the accompanying figures. It is to be expressly understood, however, that each of the figures is provided for the purpose of illustration and description only and is not intended as a definition of the limits of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of the present invention, reference is now made to the following descriptions taken in conjunction with the accompanying drawings, in which:

FIG. **1** is an illustration of an example screen from an IDE, including an example code view;

FIG. **2** is an illustration of an example screen from an IDE, including an example code view;

FIG. **3** is an illustration of an example screen from an IDE, including an example code view;

FIG. **4** is an illustration of an example screen of an IDE adapted according to one embodiment of the invention;

FIG. **5** is an illustration of an example screen of an IDE adapted according to one embodiment of the invention;

FIG. **6** is a flowchart illustrating an exemplary method, which may be performed by a computer system executing IDE software, the IDE providing a code view and a design view, the method adapted according to one embodiment of the invention; and

FIG. **7** illustrates an example computer system adapted according to embodiments of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

FIG. **4** is an illustration of example screen **400** of an IDE adapted according to one embodiment of the invention. Screen **400** is an example IDE screen (i.e., document window) that contains code view **410** and design view **420**. Code view **410** is a view of the source code of a document rendered on the screen as text. Code view **410** includes source code **401** (replaced with "code") and source code **404** and source code **405**, not shown as text in FIG. **4**, but rather, represented by highlighting **406** so that the features of the invention may be more easily seen. It should be understood that the word, "code," and highlighting **406** indicate conceptually that source code should be rendered as text in that area of screen **400**. Code **401** is not currently collapsed or auto-expanded. Code collapse buttons **402** and **403** represent code that is currently collapsed and not auto-expanded, such that it is currently hidden. Code **404** is auto-expanded code that is not hidden. However, because it may be subject to automatic collapse once another section is selected, it is momentarily not hidden, but otherwise designated as collapsed. Code **404** contains portion **405** that is currently selected, as shown by its different highlighting.

When a developer makes a selection in design view **420**, the IDE shows which code is actually selected in code view **410**. In FIG. **4**, a developer has selected portion **422** of the visual representation of component **421**. Note that the text in selection **422** corresponds to selected portion **405** in code view **410**. A selected portion of code has two end points—a start end point and an end end point. When a selection is made, the program determines if either or both of the end points fall within a collapsed section of code. When an end point of a selection falls within a collapsed section of code, the IDE auto-expands the code in that particular code collapse button. For example, if a collapsed section of code contains a start end point, an end end point, or both, the IDE expands that section.

Code view **410** includes background coloring or highlighting **406** that is applied to code **404**. Highlighting **406** is of a different color or pattern than any background color used with uncollapsed code. The unique coloring or patterning of highlighting **406** indicates to the user that code **404** is auto-expanded, but otherwise collapsed. In one or more embodiments, the highlighting of selected portion **405** may also be a unique color to indicate that it is a selected portion of an auto-expanded section. Highlighting **406** is one kind of visual indicator that code is auto-expanded from a collapsed state.

A second kind of visual indicator to identify code as auto-expanded is illustrated by hash marks **407** in the gutter area of code view **410**. Hash marks **407** mark the vertical expanse of the auto-expanded lines. A developer can see immediately that code **404** from line **113** to line **116**, inclusive, is auto-expanded code and is otherwise collapsed. Much like highlighting **406**, hash marks **407** may be rendered in a color that indicates that code **404** is auto-expanded. Alternatively, hash marks **407**, alone, may be sufficient to alert the developer to auto-expanded code.

Widgets **408** are not a visual indicator that code is auto-expanded, but rather, mark the extent of the selected portion. Widgets **408** are rendered whenever code is selected, not just when collapsed code is selected. The purpose of widgets **408** is to allow the developer to collapse the code by clicking thereon. In other words, by clicking the minus sign, a developer can designate code as collapsed and can even collapse code inside collapsed code.

FIG. **5** is an illustration of example screen **500** of an IDE adapted according to one embodiment of the invention. Screen **500** includes code view **510** and design view **520**. In the example of FIG. **4**, the end points of the selected portions both lie in a single section of collapsed code; however, in the example illustrated in FIG. **5**, end points of selected code **507** are each contained in two non-contiguous collapsed sections, each section denoted by visual indicators **502** and **506**. The one-line gap between the bottom of indicator **502** and button **505** shows that uncollapsed code (not shown) is in line **117**. Also, between the two non-contiguous collapsed sections exist intervening code collapse button **505** at line **118** and more uncollapsed code (not shown) at lines **124-126**. The auto-expand function has, therefore, expanded the two non-contiguous collapsed sections denoted by indicators **502** and **506**. Accordingly, auto-expanded code **503** is non-contiguous, as it reaches from line **113-116** and from line **127** to a point below the lower boundary of code view **510**. Further, highlighting **504** is another visual indicator that code **503** is auto-expanded and is similar to highlighting **406** (FIG. **4**), while visual indicators **502** and **506** are similar to hash marks **407** (FIG. **4**).

It should be noted that the IDE of FIG. **5** does not auto-expand intervening collapsed code, such as that represented by button **505**, because such code does not contain an end point of selected portion **507**. However, alternative embodiments may expand intervening sections, as well as nested collapsed code (i.e., collapsed code within collapsed code, not shown). Accordingly, the present invention is not limited to particular methods of performing auto-expand.

FIG. **6** is a flowchart illustrating exemplary method **600**, which may be performed by a computer system executing IDE software, the IDE providing a code view and a design view, the method adapted according to one embodiment of the invention. In step **601**, the computer system receives user input selecting at least a portion of a visual component, the visual component defined by source code. Examples of receiving user input include receiving input from a mouse device selecting the portion in the design view and receiving user input initiating a FIND/REPLACE process in the source code that affects source code defining the visual object. The invention is not limited by the manner of receiving user input.

In step **602**, the computer system expands the source code in the code view from a collapsed state in response to the receiving. In this step, the source code is collapsed, and the IDE receives the user input and auto-expands the source code, such that the source code is no longer hidden but is otherwise collapsed. Step **602**, in this example, includes marking a beginning point and an ending point of the selected portion of the section in response to the user's selecting. Additionally, step **602** includes determining that one or more of the points is within the section of collapsed source code by comparing the points to the boundaries of one or more collapsed sections. Further, although the examples above include auto-expanding all of the code in a given collapsed section, the invention is not limited thereto, as alternate embodiments may expand only the selected portions of the collapsed sections while leaving unselected portions hidden.

In step **603**, the computer system provides one or more cues indicating that the source code is otherwise collapsed. As shown in FIGS. **4** and **5**, visual cues may include highlighting the auto-expanded code and marking the extent of the auto-expanded code with hash marks in a gutter area. Other visual cues may exist and are within the scope of the various embodiments. In fact, other non-visual cues, such as audio or Braille cues may be included in one or more embodiments of the invention.

In step **604**, the computer system removes the one or more cues and recollapses the source code in response to other user input. The computer system performs step **604** by rendering the code view without the cues and with a code collapse button in place of the code. In one example, the IDE provides automatic collapse as well as auto-expand in the code view. In another example, the IDE receives manual input instructing that the code be re-hidden. The other user input may include, among other things, selecting another portion of source code or otherwise indicating that the code should no longer be expanded.

Various embodiments stand in contrast to IDEs that provide no visual indication to the developer that certain code in the code view is auto-expanded from a collapsed state. Example advantages include providing context to the user for the automatic functions of the IDE. Such context may help the user to identify expanded areas of the source code more quickly and with less effort, thereby providing a more enjoyable experience.

Some embodiments of the invention are not limited to IDEs. Thus, while the above examples are in the context of IDEs, various embodiments of the invention may be applied to other kinds of tools, as well. Other kinds of user programs that show text on a screen, e.g., word processors and text editors, may use the collapse and automatic collapse indicators described above. In fact, source code is only one type of text, and various embodiments may be applied to code, rendered portions of text content, raw text, and the like. For instance, a long document may benefit from a text collapse feature that hides text that is not of interest, and automatic text collapse indicators may be used to mark text that is auto-expanded, for instance, during a FIND/REPLACE operation. Thus, a program that loads the contents of a document file, interprets the contents, and renders a representation of it to a user may benefit from the invention. In fact, various embodiments apply to IDEs and other tools that create documents in general, as well as tools that create interactive applications.

Other types of content may be collapsed and expanded, and, therefore, may find application in some embodiments. For instance, the collapse feature can be extended to operate on visual elements in a design view, for example, by hiding the contents of a table or paragraph. Accordingly, cues can be used to indicate that some visual content has been auto-expanded. Examples of possible cues include highlighting, hash marks, unique color renderings, and the like.

When implemented via computer-executable instructions, various elements of embodiments of the present invention are in essence the software code defining the operations of such various elements. The executable instructions or software code may be obtained from a readable medium (e.g., a hard drive media, optical media, EPROM, EEPROM, tape media, cartridge media, flash memory, ROM, memory stick, and/or the like) or communicated via a data signal from a communication medium (e.g., the Internet). In fact, readable media can include any medium that can store or transfer information.

FIG. **7** illustrates example computer system **700** adapted according to embodiments of the present invention. That is, computer system **700** comprises an example system on which embodiments of the present invention may be implemented. Central processing unit (CPU) **701** is coupled to system bus **702**. CPU **701** may be any general purpose CPU. However, the present invention is not restricted by the architecture of CPU **701** as long as CPU **701** supports the inventive operations as described herein. CPU **701** may execute the various logical instructions according to embodiments of the present invention. For example, CPU **701** may execute machine-level instructions according to the exemplary operational flows described above in conjunction with FIG. **6**.

Computer system **700** also preferably includes random access memory (RAM) **703**, which may be SRAM, DRAM, SDRAM, or the like. Computer system **700** preferably includes read-only memory (ROM) **704** which may be PROM, EPROM, EEPROM, or the like. RAM **703** and ROM **704** hold user and system data and programs, as is well known in the art.

Computer system **700** also preferably includes input/output (I/O) adapter **705**, communications adapter **711**, user interface adapter **708**, and display adapter **709**. I/O adapter **705**, user interface adapter **708**, and/or communications adapter **711** may, in certain embodiments, enable a user to interact with computer system **700** in order to input information, such as, for example, selecting a portion of code or a visual representation of a component.

I/O adapter **705** preferably connects to storage device(s) **706**, such as one or more of hard drive, compact disc (CD) drive, floppy disk drive, tape drive, etc. to computer system **700**. The storage devices may be utilized when RAM **703** is insufficient for the memory requirements associated with storing data for program **703**. Communications adapter **711** is preferably adapted to couple computer system **700** to network **712** (e.g., the Internet). User interface adapter **708** couples user input devices, such as keyboard **713**, pointing device **707**, and microphone **714** and/or output devices, such as speaker(s) **715** to computer system **700**. Display adapter **709** is driven by CPU **701** to control the display on display device **710** to, for example, display the code view and design views (as in FIGS. **4-5**) of embodiments of the present invention.

It shall be appreciated that the present invention is not limited to the architecture of system **700**. For example, any suitable processor-based device may be utilized, including without limitation personal computers, laptop computers, computer workstations, and multi-processor servers. Moreover, embodiments of the present invention may be implemented on application specific integrated circuits (ASICs) or very large scale integrated (VLSI) circuits. In fact, persons of ordinary skill in the art may utilize any number of suitable structures capable of executing logical operations according to the embodiments of the present invention.

Although the present invention and its advantages have been described in detail, it should be understood that various changes, substitutions and alterations can be made herein without departing from the spirit and scope of the invention as defined by the appended claims. Moreover, the scope of the present application is not intended to be limited to the particular embodiments of the process, machine, manufacture, composition of matter, means, methods and steps described in the specification. As one of ordinary skill in the art will readily appreciate from the disclosure of the present invention, processes, machines, manufacture, compositions of matter, means, methods, or steps, presently existing or later to be developed that perform substantially the same function or achieve substantially the same result as the corresponding embodiments described herein may be utilized according to the present invention. Accordingly, the appended claims are intended to include within their scope such processes, machines, manufacture, compositions of matter, means, methods, or steps.

What is claimed is:

1. A method for providing automatic expanding and collapsing of a portion of visual content on a screen, said method comprising:

providing, by a computing system, an interface displaying visual content, wherein at least some of the visual content is represented in a collapsed state, wherein the interface supports an expand command to expand content represented in a collapsed state, a collapse command to collapse content represented in an expanded state, and at least one selection command which, in response to input identifying content of interest, searches for the content of interest and automatically expands content represented in the collapsed state if the content represented in the collapsed state comprises the content of interest, the selection command invocable independently from the expand or collapse command;

receiving, by the computing system, input invoking the selection command and identifying content of interest;

determining, by the computing system that the content of interest is included in a portion of the content that is represented in the collapsed state;

automatically expanding, by the computing system, said portion of the visual content; and

providing, by the computing system, output to display a visual cue on a display device, the visual cue associated with the portion that was automatically expanded and configured to indicate that said portion was automatically expanded from a collapsed state in response to invoking the selection command,

wherein the visual cue distinguishes said automatically expanded portion from other content represented in the expanded state alongside the automatically-expanded portion, and wherein the other content represented in the expanded state is expanded in response to an event other than the input invoking the selection command and identifying the content of interest.

2. The method of claim **1** wherein the visual content comprises text, source code, or a visual element.

3. The method of claim **1** wherein said visual cue comprises at least one of hash marks in a gutter of a code view indicating lines containing expanded collapsed code or highlighting expanded collapsed code.

4. The method of claim **1** wherein said expanding includes expanding nested collapsed sections of said visual content.

5. The method of claim **1** wherein said method is performed by one of: an Integrated Development Environment (IDE); a word processing program; or a text editor.

6. The method of claim **1** further comprising recollapsing said portion and removing said visual cue.

7. A method for providing an Integrated Development Environment (IDE), said IDE including a code view depicting source code content and a design view depicting a graphically laid-out version of a document defined by source code in the code view, said method comprising:

receiving user input selecting at least a portion of visual representation of a component in said design view, said component defined by source code in said code view;

expanding a section of said source code in said code view from a collapsed state in response to said receiving;

providing one or more visual cues indicating that said section of said source code defines said component and was expanded in response to said user input in said design view selecting said portion of said visual representation of said component; and

removing said one or more visual cues and recollapsing said section of said source code.

8. The method of claim **7** wherein said expanding said section of said source code in said code view comprises:

marking a beginning point and an ending point of a portion of said source code corresponding to said at least a portion of said visual representation of said component; and

determining that one or more of said points is within said section of said source code.

9. The method of claim **7**, wherein said removing said one or more visual cues and recollapsing said section of said source code is in response to receiving user input in said design view removing selection of said portion of said visual representation of said component.

10. The method of claim **7**, wherein said removing said one or more visual cues and recollapsing said section of said source code is in response to receiving user input in said design view selecting at least a portion of visual representation of a different component in said design view, said different component defined by different source code in said code view.

11. A method for providing automatic expanding and collapsing of portions of visual display, said method comprising:

providing, by a computing system, a code view depicting source code content and a design view rendering a graphic layout of elements defined by the source code, at least a first portion of the source code content represented in a collapsed state in the code view and at least a second portion of the source code content represented in an expanded state;

automatically expanding the first portion of the source code content represented in the collapsed state in response to user input identifying an element rendered in the design view and defined by source code included in the portion;

providing indicators in the code view that the first portion is automatically expanded from a collapsed state, the indicators distinguishing the automatically expanded first portion from the second portion, wherein the second portion is expanded in response to an event other than the user input identifying the element rendered in the design view; and

recollapsing said first portion and removing said indicators from said screen in response to further user input.

12. The method set forth in claim **11**, wherein the indicators comprise at least one of hash marks in a gutter of said code view indicating lines of code defining the identified element and a change in the appearance of lines of code defining the identified element.

13. The method set forth in claim **11**, wherein the code comprises source code defining a word processing document, a Hypertext Markup Language (HTML) document, or a Rich Internet Application (RIA).

14. A computer program product comprising a non-transitory computer readable medium embodying program code, the computer program product comprising:

program code for providing a first interface and displaying content in the first interface, the first interface supporting an expand command to expand content represented in a collapsed state and a collapse command to collapse content represented in an expanded state;

program code for collapsing at least a portion of the content in response to the collapse command and rendering a collapse indicator in place of the collapsed content in the first interface, the collapse indicator rendered alongside other content represented in the expanded state;

program code for providing a second interface and receiving a selection command identifying content of interest via the second interface;

program code for determining, in response to the selection command, if the content of interest is included in the collapsed content; and

program code for expanding at least the portion of collapsed content including the content of interest and providing an indicator, the indicator visually distinguishing the portion that has been automatically expanded from a collapsed state in response to the selection command from the other content represented in the expanded state, wherein the other content represented in the expanded state is expanded in response to an event other than the selection command.

15. The computer program product set forth in claim **14**, wherein the second interface comprises a search interface configured to receive one or more search terms identifying the content of interest.

16. The computer program product set forth in claim **15**, further comprising:

program code for identifying when use of the search interface is complete; and

program code for re-collapsing the expanded portion of the content after use of the search interface is complete.

17. The computer program product set forth in claim **14**, wherein content in the first interface comprises source code and the second interface comprises a design view rendering elements defined by the source code in the first interface, wherein the selection command identifying content of interest comprises selection of one or more elements rendered in the second interface.

18. The computer program product set forth in claim **17**, further comprising:

program code for re-collapsing the expanded portion of the content after the selected one or more elements are de-selected.

19. The computer program product set forth in claim **14**, wherein the visual indicator visually distinguishes the portion that has been automatically expanded by using at least one of:

a color or highlighting different from a color or highlighting associated with the other content already represented in the expanded state; or

hash marks different from hash marks or annotations associated with the other content already represented in the expanded state.

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